



BILL LEE  
Governor

## TENNESSEE BUREAU OF INVESTIGATION

### NASHVILLE CRIME LABORATORY

901 R.S. Gass Boulevard

Nashville, Tennessee 37216-2639



DAVID B. RAUSCH  
Director

### OFFICIAL FORENSIC BIOLOGY REPORT

TO: Chuck Baker  
TBI - West CID  
AGENCY CASE NO: ME5L000002

DATE ISSUED: 2/13/23  
LAB CASE NO: 231000995  
COUNTY: Shelby

#### LAW ENFORCEMENT

DEMETRIUS HALEY  
DESMOND MILLS JR.  
EMMITT MARTIN  
JUSTIN SMITH  
PRESTON HEMPHILL  
TADARRIUS BEAN

#### OTHER

TYRE NICHOLS

Received From: Gabriel Vitt  
Received By: Abbey Coderre

Date Received: 1/18/23  
Time Received: 10:30 am

#### EXHIBIT(S):

001-a Left boot from Emmitt Martin  
001-b Right boot from Emmitt Martin  
002-a Left boot from Demetrius Haley  
002-b Right boot from Demetrius Haley  
003-a Left boot from Preston Hemphill  
003-b Right boot from Preston Hemphill  
004-a Right shoe from Justin Smith  
004-b Left shoe from Justin Smith  
005-a Left boot from Tadarrius Bean  
005-b Right boot from Tadarrius Bean  
006-a Jeans from Tyre Nichols  
007-a Sweatpants from Tyre Nichols  
008-a Underwear from Tyre Nichols  
009-a Sig Sauer P229 pistol, magazine, and cartridges (13) from Emmitt Martin  
010-a Left boot from Desmond Mills Jr.  
010-b Right boot from Desmond Mills Jr.  
011-a Baton from Desmond Mills Jr.  
015-a Buccal standard from Emmitt Martin  
016-a Buccal standard from Justin Smith  
017-a Buccal standard from Tadarrius Bean  
018-a Buccal standard from Demetrius Haley  
019-a Buccal standard from Desmond Mills Jr.  
020-a Buccal standard from Preston Hemphill  
021-a Blood standard from Tyre Nichols  
022-a Left hand fingernail clippings from Tyre Nichols



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022-b Right hand fingernail clippings from Tyre Nichols and clippers

Received From: Nathan Neese Date Received: 1/25/23  
Received By: Abbey Coderre Time Received: 9:35 am

**EXHIBIT(S):**

023-a Sweatshirt from Tyre Nichols

**RESULTS:**

Please submit any elimination standards for comparison to the unknown male profiles.

DNA testing was performed using the polymerase chain reaction (PCR) technique for Amelogenin, Y-indel marker, and the following short tandem repeat (STR) loci: D3S1358, vWA, D16S539, CSF1PO, TPOX, D8S1179, D21S11, D18S51, D2S441, D19S433, TH01, FGA, D22S1045, D5S818, D13S317, D7S820, SE33, D10S1248, D1S1656, D12S391, D2S1338, and DYS391.

001-a Presumptive chemical testing did not indicate the presence of blood.

Outsole (bottom): The DNA profile obtained is consistent with a mixture of at least five individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

Front and sides of outsole and toe area: The DNA profile obtained is consistent with a mixture of at least three individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

Top fabric toe area: The DNA profile obtained is consistent with a mixture of at least three individuals, including at least one male. The major contributor profile is consistent with exhibit #015-a (Emmitt Martin), who is an assumed contributor to the profile. Due to the limited minor contributor profile obtained, the minor contributor profile is inconclusive for comparison purposes.

001-b Presumptive chemical testing indicated the presence of blood on the top fabric toe area and the inner side of the boot. Presumptive immunological testing for the presence of human hemoglobin, a component of human blood, was not performed due to a limited sample.

Outsole (bottom): The DNA profile obtained is consistent with a mixture of at least two individuals, including at least one male. Due to the limited profile obtained and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

Front and sides of outsole and toe area: The DNA profile obtained is consistent with a mixture of at least two individuals, including at least one male. The major contributor profile matches exhibit #021-a (Tyre Nichols). The probability of randomly selecting an unrelated individual who would be included as a contributor of the DNA profile is 1 in a number greater than the current world population for the African-American, Caucasian, and Southwestern Hispanic populations. The statistics were calculated using allele frequencies from the 2015 Expanded FBI STR Population Data. Due to the limited minor contributor profile obtained, the minor contributor profile is inconclusive for comparison purposes.

Top fabric toe area and inner side: The DNA profile obtained is consistent with a mixture of at least two individuals, including at least one male. The major contributor profile matches exhibit #021-a (Tyre Nichols). The probability of randomly selecting an unrelated individual who would be included as a contributor of the DNA profile is 1 in a number greater than the current world population for the African-American, Caucasian, and Southwestern Hispanic populations. The statistics were calculated using allele frequencies from the 2015 Expanded FBI STR Population Data. Due to the limited minor contributor profile obtained, the minor contributor



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profile is inconclusive for comparison purposes.

002-a Presumptive chemical testing did not indicate the presence of blood.

**Outsole (bottom):** The DNA profile obtained is consistent with a mixture of at least seven individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

**Front and sides of outsole and toe area:** The DNA profile obtained is consistent with a mixture of at least four individuals, including at least one male. The major contributor profile is consistent with exhibit #018-a (Demetrius Haley), who is an assumed contributor to the profile. Due to the limited minor contributor profile obtained, the minor contributor profile is inconclusive for comparison purposes.

**Top fabric toe area:** The DNA profile obtained is consistent with a mixture of at least four individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

002-b Presumptive chemical testing indicated the presence of blood on the top fabric toe area and the inner side of the boot. Presumptive immunological testing for the presence of human hemoglobin, a component of human blood, was not performed due to a limited sample.

**Outsole (bottom):** The DNA profile obtained is consistent with a mixture of at least six individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

**Front and sides of outsole and toe area:** The DNA profile obtained is consistent with a mixture of at least three individuals, including at least one male. The major contributor profile is from an unknown male (Unknown Male #1). Due to the limited minor contributor profile obtained, the minor contributor profile is inconclusive for comparison purposes.

Exhibit #015-a (Emmitt Martin), #016-a (Justin Smith), #017-a (Tadarrius Bean), #018-a (Demetrius Haley), #019-a (Desmond Mills Jr.), #020-a (Preston Hemphill), and #021-a (Tyre Nichols) are excluded as the contributor to the major profile.

**Top fabric toe area and inner side:** The DNA profile obtained is consistent with a mixture of at least four individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

003-a Presumptive chemical testing did not indicate the presence of blood.

**Outsole (bottom):** The DNA profile obtained is consistent with a mixture of at least six individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

**Front, toe, and sides:** The DNA profile obtained is consistent with a mixture of at least four individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

003-b Presumptive chemical testing did not indicate the presence of blood.

**Outsole (bottom):** The DNA profile obtained is consistent with a mixture of at least four individuals, including at least one male. The major contributor profile is consistent with exhibit #020-a (Preston Hemphill), who is an



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assumed contributor to the profile. Due to the limited minor contributor profile obtained, the minor contributor profile is inconclusive for comparison purposes.

**Front, toe, and sides:** The DNA profile obtained is consistent with a mixture of at least four individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

004-a Presumptive chemical testing did not indicate the presence of blood.

**Outsole (bottom):** The DNA profile obtained is consistent with a mixture of at least five individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

**Front and sides of outsole:** The DNA profile obtained is consistent with a mixture of at least four individuals, including at least one male. The major contributor profile is consistent with exhibit #021-a (Tyre Nichols). The probability of randomly selecting an unrelated individual who would be included as a contributor of the DNA profile is 1 in a number greater than the current world population for the African-American, Caucasian, and Southwestern Hispanic populations. The statistics were calculated using allele frequencies from the 2015 Expanded FBI STR Population Data. Due to the limited minor contributor profile obtained, the minor contributor profile is inconclusive for comparison purposes.

**Top fabric toe area:** The DNA profile obtained is consistent with a mixture of at least five individuals, including at least one male. The major contributor profile is consistent with exhibit #021-a (Tyre Nichols). The probability of randomly selecting an unrelated individual who would be included as a contributor of the DNA profile is 1 in a number greater than the current world population for the African-American, Caucasian, and Southwestern Hispanic populations. The statistics were calculated using allele frequencies from the 2015 Expanded FBI STR Population Data. Due to the limited minor contributor profile obtained, the minor contributor profile is inconclusive for comparison purposes.

004-b Presumptive chemical testing did not indicate the presence of blood.

**Outsole (bottom):** The DNA profile obtained is consistent with a mixture of at least five individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

**Front and sides of outsole:** The DNA profile obtained is consistent with a mixture of at least four individuals, including at least one male. The major contributor profile is consistent with exhibit #021-a (Tyre Nichols). The probability of randomly selecting an unrelated individual who would be included as a contributor of the DNA profile is approximately 1 in 1.20 billion for the African-American population, 1 in 18.96 billion for the Caucasian population, and 1 in 19.79 billion for the Southwestern Hispanic population. The statistics were calculated using allele frequencies from the 2015 Expanded FBI STR Population Data. Due to the limited minor contributor profile obtained, the minor contributor profile is inconclusive for comparison purposes.

**Top fabric toe area:** The DNA profile obtained is consistent with a mixture of at least five individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

005-a Presumptive chemical testing did not indicate the presence of blood.

**Outsole (bottom):** The DNA profile obtained is consistent with a mixture of at least five individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.



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Front, toe, and sides: The DNA profile obtained is consistent with a mixture of at least four individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

005-b Presumptive chemical testing did not indicate the presence of blood.

Outsole (bottom): The DNA profile obtained is consistent with a mixture of at least three individuals, including at least one male. The major contributor profile is from an unknown male (Unknown Male #2). Due to the limited minor contributor profile obtained, the minor contributor profile is inconclusive for comparison purposes.

Exhibit #015-a (Emmitt Martin), #016-a (Justin Smith), #017-a (Tadarrius Bean), #018-a (Demetrius Haley), #019-a (Desmond Mills Jr.), #020-a (Preston Hemphill), and #021-a (Tyre Nichols) are excluded as the contributor to the major profile.

Front, toe, and sides: The DNA profile obtained is consistent with a mixture of at least three individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

006-a Visual examination did not indicate the presence of bloodstaining. This exhibit was saved for microanalysis testing.

007-a Visual examination did not indicate the presence of bloodstaining. This exhibit was saved for microanalysis testing.

008-a Visual examination did not indicate the presence of bloodstaining. This exhibit was saved for microanalysis testing.

009-a Sides and back of grip, rear sight, slide release, hammer, and back area of slide and frame of pistol: The DNA profile obtained is consistent with a mixture of at least three individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

Bottom of magazine: The DNA profile obtained is consistent with a mixture of at least three individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

Cartridges: No examination was performed.

010-a Presumptive chemical testing did not indicate the presence of blood.

Outsole (bottom): The DNA profile obtained is consistent with a mixture of at least five individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

Front, toe, and sides: The DNA profile obtained is consistent with a mixture of at least four individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

010-b Presumptive chemical testing did not indicate the presence of blood.

Outsole (bottom): The DNA profile obtained is consistent with a mixture of at least eight individuals, including at



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least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

**Front, toe, and sides:** The DNA profile obtained is consistent with a mixture of at least four individuals, including at least one male. Due to the complex nature and the unknown number of potential contributors to the profile, this profile is inconclusive for comparison purposes.

011-a **Skinniest section and end:** Presumptive chemical testing did not indicate the presence of blood.

A limited DNA profile, including at least one male, was obtained. Due to the limited profile obtained, this profile is inconclusive for comparison purposes.

**Middle section:** Presumptive chemical testing did not indicate the presence of blood.

A limited DNA profile, including at least one male, was obtained.

The DNA profile obtained is only of value for exclusionary purposes. Due to the limited profile obtained, comparison to exhibit #021-a (Tyre Nichols) is inconclusive.

Exhibit #015-a (Emmitt Martin), #016-a (Justin Smith), #017-a (Tadarrius Bean), #018-a (Demetrius Haley), #019-a (Desmond Mills Jr.), and #020-a (Preston Hemphill) are excluded as a contributor.

015-a A complete DNA profile was obtained for comparison.

016-a A complete DNA profile was obtained for comparison.

017-a A complete DNA profile was obtained for comparison.

018-a A complete DNA profile was obtained for comparison.

019-a A complete DNA profile was obtained for comparison.

020-a A complete DNA profile was obtained for comparison.

021-a A complete DNA profile was obtained for comparison.

022-a The DNA profile obtained is consistent with a mixture of at least two individuals, including at least one male. The major contributor profile is consistent with exhibit #021-a (Tyre Nichols), who is an assumed contributor to the profile. Due to the limited minor contributor profile obtained, the minor contributor profile is inconclusive for comparison purposes.

022-b The DNA profile obtained is consistent with exhibit #021-a (Tyre Nichols), who is an assumed contributor to the profile.

023-a Visual examination did not indicate the presence of bloodstaining. This exhibit was saved for microanalysis testing.



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**DISPOSITION:**

The evidence will remain at the Nashville Crime Lab until completion of all requested examinations. DNA extracts generated during testing will be destroyed after ten years.

Respectfully Submitted,

*Carrie Schmittgen*

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Carrie Schmittgen, MSFS

Special Agent / Forensic Scientist

The above represents the interpretations and opinions of the analyst.

Technical notes and data supporting the conclusions/findings in this report are maintained within the laboratory case records.

